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A PRELIMINARY SURVEY OF THE TERMITE PROBLEM IN DEFENSE HOUSING CONSTRUCTION IN CENTRAL CALIFORNIA

cc. Craighead 3 Keen Essig

INTRODUCTION

The recent nation-wide expansion in building programs of various branches of the Federal government has provoked some question among entomologists regarding the adequacy of measures being used to prevent termite damage. Large sums of money are being spent currently on low cost defense housing projects, and much construction is going on in territory in which termites are known to be injurious. It has been suggested that if the standards for termite protection, recommended by the United States Department of Agriculture, could be established throughout this new construction, subsequent damage could be forestalled and considerable saving to the government could be effected. The purpose of this report is to present a brief review of the various aspects of the termite problem in relation to defense housing in California.

DESCRIPTION OF SURVEY

Since the middle of February 1941, the Berkeley laboratory has been engaged in making a survey of Federal housing agencies in the San Francisco Bay area for the purpose of arriving at a preliminary estimate of what can be done in rendering service in termite control.

Initial Contacts

The survey was initiated by K. A. Salman, who made informal contacts with representatives of the following agencies:

1. Federal Housing Administration
2. Works Projects Administration
3. Home Owner's Loan Corporation
4. Public Buildings Administration
5. United States Housing Authority
6. Farm Security Administration
7. Public Works Officer, U. S. Navy
8. Constructing Quartermaster, Ninth Corps Area, U. S. Army

The purpose of this contact work was to determine (1) the type and extent of construction involved; (2) the interest of local officers in utilizing the services offered by the Bureau of Entomology and Plant Quarantine; and (3) the possibilities for developing the necessary cooperation for termite work. As reported in an earlier memorandum 1/

1/ Miller, J. M. Feb. 28, 1941. Memorandum for Dr. F. C. Craighead.

this initial exploration showed that while the construction program in California is extensive, and while interest in termite control does exist in some instances, some clarification in policy on the matter of service to be rendered would be necessary before entomologists could attempt to secure the adoption of termite prevention measures recommended by the Bureau.

Project Contacts and Inspection

During March and April the writer and D. DeLeon completed, as a part time assignment, a program of contact and inspection work on defense housing projects that could be reached from the Berkeley headquarters. While this program was by no means extensive enough to cover the numerous projects in California, it is expected that it has representatively sampled the termite phases of housing construction in this region. The objectives of the investigation were as follows:

1. To ascertain, where housing facilities are being constructed, what precautions are being taken to prevent termite damage, and whether or not the measures used meet the standards specified by the Department of Agriculture.

2. To inform the various agencies of the Department's recommendations for the prevention of termite damage in new construction by the use of proper construction methods.

3. To offer the services of the Berkeley laboratory of the Bureau of Entomology and Plant Quarantine in furnishing advice and information on termites.

There follows a list of projects, arranged by the agency concerned, on which inspections were made and plans reviewed:

Federal Works Agency
Public Buildings Administration

Project	Location	No. Buildings	Construction
Benicia Arsenal	Benicia	50	Frame
Hamilton Field	San Rafael	43	"
Moffett Field	Sunnyvale	51	"
Fort Ord	Monterey	76	"
Stockton	Stockton	24	"
Mare Island	Vallejo	394	permanent "
		286	demountable "

Federal Works Agency
United States Housing Authority

Project	Location	No. Buildings	Construction
Peralta Villa	Oakland	--	Concrete
Campbell Village	Oakland	--	"
Lockwood Gardens2/	Oakland	53	Frame
Alameda Defense Housing Project2/	Alameda	82	"
Sand Point Defense Housing Project2/	Seattle, Wash.	47	"
Yesler Hill Project2/	Seattle, Wash.	87	"
Manette Defense Housing Project2/	Bremerton, Wash.	65 permanent	"
		115 demountable	"
Hawaii Housing Project2/	Honolulu, T. H.	60	"

War Department
Corps of Engineers

McClelland Field	Sacramento	13	Frame
Mather Field	Sacramento	185	"
Municipal Airport2/	Tucson, Arizona	--	"

War Department
Ninth Corps Area

Benicia Arsenal Post	Benicia	5	Frame

Department of Agriculture
Farm Security Administration

Westley Migratory Camp	Westley	--	Frame
Ceres Migratory Camp	Ceres	--	"

Detailed reports, stressing the good and bad features of the construction work from the stand point of termite protection, have been prepared for those projects on which actual inspections were made. Conferences have been held with architects of the United States Housing Authority, and also with architects of the Corps of Engineers, U. S. Army, in which the salient features of correct building design to avoid termite damage were stressed. The recommendations of the Department of Agriculture, as outlined in Circular 2, have also been called to the attention of the Public Works Officer, 12th Naval District, and to the Commandant, Mare Island Navy Yard.

2/ No field inspections made, plans reviewed only.

DISCUSSION

In reviewing the project reports and considering our experience in contacts with representatives of the various agencies, there are a number of points on the matter of termite prevention in defense housing construction that are fairly clear:

1. There is a definite need for improvement in measures being used to prevent termite damage in frame construction. On very few of the projects inspected were the standards specified by the Department of Agriculture satisfactorily met.

2. In most cases observed, excepting perhaps the Army construction, minor changes in plans would be sufficient to satisfy the requirements for adequate protection. This means the breaking of direct ground to wood contacts, and adherence to the proper standards of clearance to allow for inspection.

3. In Army construction of wooden barracks, etc., it would be cheaper to dispense with the termite shields now being used and place more reliance on the utilization of better construction methods accompanied by periodic inspections. In cases observed the protection the shields are supposed to afford is largely nullified by direct ground to wood contacts provided by steps, skirting, improper grading, etc.

4. On projects already underway it is almost impossible to secure, at the project site, the changes in construction details that will meet the requirements for adequate protection. Local engineers are interested in features which entomologists indicate to be unsatisfactory, but they do not have the authority to make the necessary changes since plans are usually cleared through the central office of the particular agency involved.

5. The correction of undesirable construction details on future projects is one of the main purposes that our contacts and inspection reports can serve. The fulfillment of this purpose will depend to a large extent on our success in reaching the proper authorities.

6. In spite of the large amount of defense housing in this region, and the apparent need for better adherence to the standards recommended by the Department of Agriculture, the demand for assistance in this region has thus far been exceedingly small. (One or two calls only have been received at the Laboratory during the course of the present survey.) Thus, if future work is limited to filling requests for service it can hardly be more than a part time assignment for one man.

Our experience here indicates that if continued effort is to be made to effect a saving to the government in money being spent for unnecessary termite shields, and to prevent the development of subsequent termite damage, entomologists will have to take the initiative in contacting projects, reporting defective work, and following the reports through to secure the desired changes. As pointed out by Dr. Craighead,3/ these objectives could be much more readily accomplished if the Defense Commission would require clearance through the Division Office of building plans or other matters involving termite problems.

POSSIBILITIES FOR FURTHER WORK

As indicated above, the present survey covers only a fraction of the defense housing work in this region. Army housing construction, wherein lies the greatest need for correction of malpractices, has scarcely been touched. There are at least 12 posts and 6 cantonments in this Corps Area which have not been contacted. None of the Navy projects have been examined. Projects of the United States Housing Authority and the Public Buildings Administration in the southern part of the state have not been reached. The Farm Security Administration, though not concerned with defense housing, is dealing with frame construction that is subject to termite injury in providing housing for migratory workers. This organization has 14 migratory camps in California and 5 in Arizona. Thus, considering the total number of government housing projects now under way, it is obvious that the termite survey could well be extended to cover the entire region, providing the necessary authorization and funds are forthcoming.

Such a program would entail the assignment of one, or better two men from the Berkeley laboratory for a period of 2 or 3 months. These men would:

1. Contact every project in the region where defense buildings are being constructed.

2. Examine the buildings with regard to measures used for protection from termites.

3. Bring to the attention of local engineers the good and bad features of the construction from the termite standpoint, and offer the recommendations of the Department of Agriculture for the correction of defects (Circular 2).

4. Prepare detailed reports of each inspection, illustrated where possible, to be sent to the Division Office for transmittal to the particular agency concerned. These reports will have to be followed up to secure the correction of the undesirable features on plans for future projects.

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3/ Craighead, F. C. April 2, 1941. Memorandum for Dr. L. A. Strong.